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Additions to the flora of peninsular Florida

II. NATURALIZED SPECIES

JOHN K. SMALL

The plants recorded in the following list represent species chiefly new to the hitherto known flora of the United States. Two of the species have been established on the Florida Keys for many years, and two have been collected in other parts of the United States. The others have been brought into peninsular Florida from many foreign countries and only recently established themselves as members of our naturalized flora. The specimens were for the most part secured through explorations in Florida maintained by the New York Botanical Garden.

CYPERUS ALTERNIFOLIUS L.

It was a surprise to find this African plant established in the Everglades. In company with Mr. J. J. Carter, I discovered it growing in the front prairie at a point about five miles south of Black Point Creek and two miles east of Naranja. The plant was evidently carried there through the agency of animals. Specimens were collected on January 14, 1909, *Small & Carter 2911*.

RHOEO DISCOLOR (L'Her.) Hance

This species, commonly cultivated in Florida, has begun to establish itself beyond the limits of the gardens, and should now be recognized as a member of our wild flora.

The writer collected specimens in pinelands about Miami in November, 1904, *Small 2295*, while Mr. A. A. Eaton discovered naturally self-supporting plants at Chatham Bay, on the opposite side of the state, in the spring of 1905.

ANEILEMA NUDIFLORUM R. Br.

This East Indian plant is now thoroughly established about Braidentown, Florida, and is said to be spreading rapidly. Mr. J. H. Simpson has had it under observation for several years past

and reports that it has now become a permanent member of the flora of this continent.

ZEBRINA PENDULA Sch.

A copious growth of this species was discovered in the heart of a dense hammock near the beach south of Palm Beach, Florida, in November, 1904, *Small 2168*. If the species is not indigenous it was doubtless carried to where I found it by birds or by other animals.

ANANAS ANANAS (L.) Lyons

The pineapple has become spontaneous on the mainland as well as on the Florida Keys, particularly in abandoned fields and adjacent pinelands.

SANSEVIERA GUINEENSIS Willd.

This African plant, now widely cultivated in the tropics, is naturalized in peninsular Florida, and Dr. Britton also found it growing in waste places in Key West in the spring of 1903.

MUSA SAPIENTUM L.

The common banana has established itself in low hammocks near Miami. It is abundant between Cocoanut Grove and Cutler, and thrives particularly well in Snapper Hammock. Specimens were collected there in November, 1904, *Small 2254*.

MUSA CAVENDISHII Lamb.

The dwarf banana, now widely cultivated in southern Florida, is also naturalized. It is not uncommon in waste and abandoned grounds about Miami, and I have observed it at points farther north along the east coast. Specimens were collected in Snapper Hammock between Cocoanut Grove and Cutler in November, 1904, *Small 2251*.

ALPINIA SPECIOSA (Wendl.) Schum.

Recent exploration in the Everglades has discovered this East Indian plant as a naturalized member of our flora. Mr. J. J. Carter and the writer found the plants established in hammocks between Perrine and Cutler on November 16, 1906, *no. 2469*.

ACHYRANTHES ASPERA L.

This tropical American plant was found in the Brickel Hammock near Miami on February 20, 1905, by Mr. A. A. Eaton (*no. 1188*). This collection adds a second species of the genus *Achyranthes* to our flora. *Achyranthes obtusifolia* was collected on Key West several years before.

GOMPHRENA DECUMBENS Jacq.

A native of Mexico, or perhaps of Texas and Mexico, this relative of the Bachelors Button, *Gomphrena globosa*, has been introduced into other countries chiefly through its cultivation in gardens. As early as 1897 Mr. N. K. Berg collected specimens at Tampa, and in 1903 Dr. Britton collected specimens in the same region, *no. 80*.

CLITORIA TERNATEA L.

This plant, originally from the East Indies, but now widely dispersed through the tropics, has escaped from cultivation in Florida. Specimens were collected by the writer in pinelands between Cocoanut Grove and Cutler in November, 1904, *no. 2225*.

CAJAN CAJAN (L.) Pollard

Within the last few years this species has escaped from cultivation and established itself in several localities in the vicinity of Miami. Collections were recently made as follows:

Pinelands between Cocoanut Grove and Cutler, *Small 2229*.
Pinelands about Arch Creek, *Small 2305*.

DOLICHOS LABLAB L.

The hyacinth bean, grown in Florida both as an ornamental and an esculent plant, has become established as a member of our flora. Specimens were collected by the writer about Miami in November, 1904.

PHASEOLUS VULGARIS L.

The common bean has established itself in southern Florida. It occurs not only in waste grounds, but also in the pinelands remote from settlements or other human habitations. Its occur-

rence in the pinelands may be accounted for by the former existence of camps. Specimens were collected in pinelands between Cocoanut Grove and Cutler in the fall of 1903, *Small & Carter 1280*.

PHASEOLUS LUNATUS L.

The Lima bean became naturalized in Florida under the same conditions as the *Phaseolus vulgaris*. Specimens were collected on hammock islands between Homestead and Cross Key in the fall of 1906, *Small & Carter 2572*. The plant occurs under nearly similar conditions on Andros, Bahamas.

CICCA DISTICHA L.

This native of the East Indies, known as the Otaheite gooseberry, now widely cultivated in the tropics, has escaped from cultivation in South Florida, where it is grown for its fruits, which are used as a substitute for gooseberries. Specimens were collected in pinelands near Miami in November, 1904, *Small 2227*.

Breynia nivosa (W. G. Smith) Small, comb. nov.

Phyllanthus nivosus W. G. Smith

This plant, very commonly cultivated in gardens, and particularly used for hedges, in southern Florida, where it grows luxuriantly, has begun to spread beyond the limits of cultivated grounds. It makes itself perfectly at home in the pinelands and on the edges of hammocks. Specimens were collected near Miami in November, 1904, *Small 2218*. The plant is also becoming naturalized in the West Indies.

THESPESIA POPULNEA (L.) Soland.

Although introduced on the Florida Keys long ago and growing naturally there for many years, this shrub or tree apparently did not reach the mainland until recently. Specimens were collected along the shore of Biscayne Bay near Cutler in 1905, by Dr. S. H. Richmond, of Cutler. The fruits from which these trees originated were evidently floated across the bay from the Keys.

HIBISCUS SABDARIFFA L.

The roselle or Jamaica sorrel, cultivated in southern Florida for its edible flowers, has become established in pinelands and waste

places about Miami. The plant is a vigorous grower and thrives exceedingly well in that region. Specimens were collected there in November, 1904, *Small 2280*.

HIBISCUS CANNABINUS L.

The ambaree or brown Indian hemp is naturalized in both pinelands and about hammocks in southern Florida. Specimens were collected near Miami in the fall of 1903 by the writer and Mr. J. J. Carter.

HIBISCUS ROSA-SINENSIS L.

The Chinese rose or shoe-black plant, cultivated throughout peninsular Florida, chiefly for its showy flowers, is naturalized, especially in the southern portions of the peninsula. We have specimens collected on the west coast at Pinellas, by Mr. Otto Frank and on the east coast about Miami by the writer.

JASMINUM GRANDIFLORUM L.

This widely cultivated tropical plant has escaped from cultivation and is growing spontaneously in the pinelands north and south of Miami. Specimens were collected at two stations in November, 1904:

Between Cocoanut Grove and Cutler, *Small 2223*.

About Arch Creek, *Small 2307*.

ANGELONIA ANGUSTIFOLIA Benth.

This tropical American plant, commonly cultivated in gardens, has become established as a member of our wild flora in southern peninsular Florida. Specimens were collected in Dade County, in December, 1903, by Mr. A. A. Eaton, *no. 872*.

RUSSELLIA JUNCEA Zucc.

This Mexican shrub, commonly cultivated in gardens, has now become established in peninsular Florida. Professor P. H. Rolfs reports it as especially plentiful about towns on the west coast.

THUNBERGIA FRAGRANS Roxb.

Several species of *Thunbergia* are generally cultivated in Florida, but only one seems to have become naturalized. The species cited above was collected growing wild in waste places

as early as 1894, at Eustis, *Nash 728*. The writer has observed it in similar localities at several towns in the peninsula.

PAEDERIA FOETIDA L.

This vine, remarkable for the very offensive odor of its foliage when bruised, has become established about Sanford. Specimens were collected there by Mr. S. Rapp in 1903.

TRIDAX PROCUMBENS L.

This tropical American species, hitherto known as a member of our flora only from the Florida Keys, is now very plentiful and permanently established in southern peninsular Florida. Specimens have been collected as follows:

Miami, November, 1903, *Small & Carter*.

Dade County, December, 1903, *Eaton 458*.

Between Cocanut Grove and Cutler, November, 1904, *Small 2230*.

Near Arch Creek, Dade County, November, 1904, *Small 2245*.

EMILIA SONCHIFOLIA (L.) DC.

This plant of the old world tropics is now firmly established in southern Florida, where the following collections have been made:

Dade County, *Eaton 1150*.

Palm Beach, *Small 2129*.

Between Miami and Kendall Station, *Small & Carter 2755*.

NEW YORK BOTANICAL GARDEN.